M64 POLYURETHANE CONSTRUCTION SEALANT

PRODUCT NAME

CRL M64 Polyurethane Construction Sealant -
A One Component Polyurethane Elastomeric Sealant with a Smooth Texture Appearance.

PRODUCT DESCRIPTION

CRL M64 Polyurethane Construction Sealant is a one-part, low modulus, moisture curing sealant. CRL M64 offers excellent primerless adhesion on most common construction surfaces.

CRL M64 Polyurethane Construction Sealant conforms to U.S. Federal Specification

- TT-S-00230C, Type II, Class A and ASTM C920-98, Type S, Grade NS, Class 25. Use NT, M, A and O.
- CAN/CGSB 19, 13-M87, Type MCG-225-A-N with QPL #81050
- USDA Approved.

BASIC USES

CRL M64 Polyurethane Construction Sealant is an excellent general purpose sealant for sealing joints in precast concrete, masonry and other basic perimeter joint applications. It is ideal for door and window frame perimeters. CRL M64 Polyurethane Construction Sealant has found its way into manufacturing uses, such as production of travel trailers, motor homes, mobile homes and modular prefab houses. Heating and air conditioning companies are using CRL M64 Polyurethane Construction Sealant on galvanized duct components.

LIMITATIONS

Not Recommended for:

- Not recommended for surfaces with special protective or cosmetic coatings without prior consultation of the manufacturer. Such surfaces include, but are not limited to mirrors, reflective glass, surfaces coated with teflon, polyethylene or polypropylene.
- CRL M64 Polyurethane Construction Sealant should not be applied with wet tooling techniques: the use of solvents, water or detergent/soap solutions is not recommended.
- CRL M64 Polyurethane Construction Sealant should not be applied to unpredictably absorptive surfaces such as marble,limestone or granite unless a standard of appearance has been agreed on as a result of testing for stain and/or discoloration.

TECHNICAL DATA

The physical properties of CRL M64 are shown below in Table 1.

TABLE 1 - PHYSICAL PROPERTIES

ASTM C920-94 TT-S-00230C Property	Value
Hardness Properties	20-25
Weight Loss	7.0
Adhesion-in-Peel	Aluminum 18-22 pli Concrete 20-25 pli Brick 19-23 pli
Movement Capability	+100% -50%
Extrusion Rate	5 Seconds
Potable Water	ANSI/NSF Standard 61 Listed (White)

COVERAGE

The following tables indicates the number of linear feet filled by one gallon or twelve 10.6 oz cartridges.

LINEAR FEET PER GALLON

Joint Depth (Inches)	Joint Width (Inches)						
	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"
1/4"	308	205	154	122	107	91	80
3/8"	—	136	102	82	68	58	51
1/2"	—	81	77	61	51	44	38

LINEAR FEET PER CARTRIDGE

Joint Depth (Inches)	Joint Width (Inches)						
	1/4"	3/8"	1/2"	5/8"	3/4"	7/8"	1"
1/4"	24	20	12	10	8	7	6
3/8"	—	12	8	7	6	5	4
1/2"	—	—	6	5	4	3	2

DECEMBER 2003 (Supersedes March 2001)

7 SEALANTS Polyurethane

C.R. LAURENCE CO., INC. • CORPORATE HEADQUARTERS: POST OFFICE BOX 58923, LOS ANGELES, CA 90058-0923
TOLL FREE TELEPHONE (800) 421-6144 • TOLL FREE FAX (800) 262-3299
E-MAIL: crl@crlaurence.com WEB SITE: www.crlaurence.com

JOINT DESIGN

A variety of factors are considered when designing the joint width and depth. The main areas of concern are maximum expansion, surface materials and their expected thermal change.

When possible, CRL M64 Polyurethane Construction Sealant should be applied when the joint is at its median opening, so as to obtain the greatest efficiency with joint movement. The dimensions of the joint must be established according to expected movement, number and location of joints. The design should be such that movement on any joint should not exceed ±25% maximum. This joint size can be calculated by determining the expected movement within the joint between the high and low temperature extremes and multiplying the change by a factor of four.

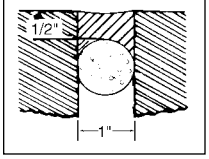
For example, it is determined the joint will open and close 1/4" between temperature extremes, it follows, 4x1/4"=1". The example joint should be a minimum of 1" wide. The depth of the sealant is also a very important consideration. The standard rule of thumb is that the depth should be half the width of the joint, with a maximum depth of 1/2", and a minimum of 1/4". See Table 2 below for further details.

TABLE 2 - JOINT WIDTH AND SEALANT DEPTH

Joint Width Inches	Sealant Depth At Midpoint Inches
1/4" to 1/2"	.1/4"
1/2" to 1"	.3/8" to 1/2"
1" to 2"	.1/2"

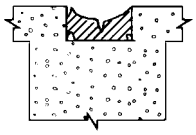
In deep joints, the sealant depth should be controlled by the use of back-up material. These materials must be approved for this application, as well as non-impregnated and compressible. When required, a bond breaker (polyethylene strip) must be used to prevent three point bonding. (See figures 1A,1B and 1C).

Figure 1A



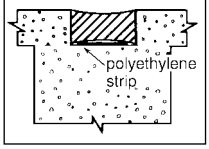
Backer Rod is installed by compressing and rolling it into joint channel without stretching lengthwise. The rod must conform to the manufacturer's recommendations as to size in relationship to joint width. Do not puncture during installation when using closed cell backer rod.

Figure 1B



Joints without Bond Breaker: three-sided adhesion causes joint failure.

Figure 1C



Joints with Bond Breaker: two-sided adhesion allows sealant to stretch with joint movement.

INSTALLATION

CLEANING

All surfaces where sealant is going to be applied must be dry, clean, free of loose particles, oil, grease, asphalt, tar, wax, rust, waterproofing coatings, mold release agents, and membrane materials, etc.

- MASONRY: Concrete, stone and other masonry must be cleaned with wire brushing, grinding, or sandblasting. A sound surface free of contamination must be achieved before sealant application.
- METAL: Metal finishes should be tested for adhesion on all new construction. Scale, rust, oils, grease, oxide, and protective lacquer coatings must be removed prior to sealant application. When using solvents on job sites all E.P.A. recommendations for handling and safety must be followed. Any chemical residue or film must be removed prior to sealant application. Reference S.W.I. and NGA manuals for standard industry cleaning procedures.

PRIMING

For water immersion conditions primers are required on metals and aluminum. No. 171 is recommended for concrete and masonry. Allow primers to dry prior to application of sealants.

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APPLICATION

Install back-up material or joint filler, spacer, shims and tapes as specified. Apply CRL M64 Polyurethane Construction Sealant in a continuous operation using a positive pressure adequate to properly fill and seal the joint. Tool the sealant with adequate pressure to spread the sealant against the back-up material and onto the joint surfaces. A tool with a concave profile is recommended to keep the sealant within the joint.

Excess sealant should be dry-wiped from all surfaces while still uncured, following with a commercial solvent such as xylol, toluol, or methyl ethyl ketone. Should sealant accidentally begin to cure on adjacent porous surfaces, the excess sealant should be allowed to progress through the initial cure or set-up. It should be then removed promptly by abrasion or other mechanical means.

APPLICATION TEMPERATURE

Moisture on substrates will adversely affect adhesion and can be found at temperatures below 40ºF (4ºC). Methylethylketone (MEK) is soluble in water and may be more appropriate for winter during cleaning as it helps in removing condensation and frost. Apply CRL M64 Polyurethane Construction Sealant using a professional sealant gun loaded at the job site. CRL M64 Polyurethane Construction Sealant maintains excellent gunnability over a broad temperature range. Joints should be filled from bottom up. Proper size nozzle and gun angle are extremely important when applying sealant to assist in the wetting process. At 75ºF (23.9ºC), 50% R.H. a durable skin forms within 24 hours. Curing continues at the rate of 1/16 inch (1.6mm) depth per day. The cure rate is reduced at lower temperatures and less humidity. After a complete cure, all chemical components of M64 can be considered inert.

BACKING MATERIAL

In deep joints, sealant depth must be controlled with backer rod. Other caulks should not be used as fillers. Reference Figure 1A and Table 2 for additional information.

CLEAN-UP

Immediately after use and before sealant has cured, equipment must be cleaned with Xylol or Toluol. The cured sealant may be removed by cutting with sharp edged tool; thin films removed by abrading.

CURED SEALANT IS USUALLY VERY DIFFICULT TO REMOVE WITHOUT ALTERING OR DAMAGING THE SURFACE TO WHICH THE SEALANT HAS BEEN MISAPPLIED.

PACKING

CRL M64 Polyurethane Construction Sealant is stocked in 10.1 fl. oz. cartridges; 2 gallon and 5 gallon pails upon request.

PRECAUTION

Uncured sealant may irritate the eyes. Avoid contact with eyes and skin. Contact lens wearers take appropriate precautions. IN CASE OF CONTACT, FLUSH EYES WITH WATER, CALL A PHYSICIAN. Remove from skin with dry cloth or paper towel. KEEP OUT OF THE REACH OF CHILDREN.

SHELF LIFE

When stored at or below 80°F (27°C), CRL M64 Polyurethane Construction Sealant has a shelf life of one year from date of manufacture.

MAINTENANCE

No maintenance should be needed. If sealant becomes damaged, replace damaged portion. Clean surfaces in damaged area and repair with fresh CRL M64 Polyurethane Construction Sealant.

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TECHNICAL SERVICE

Complete technical information and literature is available from C.R. Laurence Co., Inc. Any technical advice furnished by the company or any representative of the company concerning any use or application of any sealant is believed to be reliable, but the company makes no warranty, expressed or implied, for any use or application for which such advice is furnished.

LIMITED WARRANTY NOTICE

CRL and its manufacturer warrant our products to be of good quality and will replace or, at our election, refund the purchase price of any products proved defective. Satisfactory results depend not only upon quality products but also upon many factors beyond our control in the application process. Therefore, except for such replacement or refund CRL and its manufacturers make no warranty or guarantee, expressed or implied, including warranties of fitness or merchantability, respecting its products. CRL and its manufacturers shall have no other liability with respect thereto. User shall determine the suitability of the product for his intended use and assume all risks and liability in connection therewith. Any authorized change in the printed recommendations concerning the use of our products must bear the signature of the CRL Product Manager.

COOPERATIVE TESTING

Materials submitted for testing should be sent to:

C.R. Laurence Co., Inc.
Technical Sales Department
PO Box 58923
Los Angeles, CA 90058-0923

This program is intended to eliminate potential field problems by pretesting CRL construction sealants with samples of the building materials on which the sealant will be applied. The test will aid in determining the proper surface preparation method, effective solvents for cleaning and whether priming is necessary to achieve optimum adhesion. Following this procedure will remove many of the unknown variables which affect field success.

Test samples of substrates should be identified as to manufacturer, origin, designed use, building project, person and firm originating the request. Appropriate sketches or drawings showing the intended use can be helpful.

C.R. LAURENCE CO., INC. LOCATIONS

United States

Los Angeles, California
2503 E Vernon Avenue
Los Angeles, CA 90058-1897
Phone: (323) 588-1281
Fax: (323) 581-6522

Dallas, Texas
2080 Lone Star Drive
Dallas, TX 75212-6390
Phone: (214) 634-7305
Fax: (214) 631-6519

Chicago Area
1501 Tonne Road
Elk Grove Village, IL 60007-5069
Phone: (847) 437-8320
Fax: (847) 437-8447

San Francisco / Oakland Area
33200 Dowe Avenue
Union City, CA 94587-2013
Phone: (510) 475-1000
Fax: (510) 475-1404

Atlanta, Georgia
600 Wharton Drive
Atlanta, GA 30336-4040
Phone: (404) 696-3445
Fax: (404) 696-3386

New York City Area
211 County Avenue
Secaucus, NJ 07094-2006
Phone: (201) 770-1077
Fax: (201) 770-1599

Boston Area
97 Robert Treat Paine Drive
Taunton, MA 02780-1267
Phone: (508) 880-5600
Fax: (508) 880-5775

Orlando, Florida
6950 Presidents Drive
Orlando, FL 32809-5668
Phone: (407) 857-7900
Fax: (407) 857-7766

Denver, Colorado
4770 Joliet Street
Denver, CO 80239-2513
Phone: (303) 373-9988
Fax: (303) 373-0884

Seattle Area
23000 64th Avenue SW
Kent, WA 98032-1838
Phone: (253) 850-5800
Fax: (253) 813-1818

Cleveland area
31600 Carter Street
Solon, OH 44139-3551
Phone: (440) 248-0003
Fax: (440) 248-0120

Philadelphia Area
1511 Lancer Drive
Moorestown, NJ 08057-4232
Phone: (856) 727-1022
Fax: (856) 727-3299

Phoenix, Arizona
640 S 54th Avenue
Phoenix, AZ 85043-4731
Phone: (602) 269-7500
Fax: (602) 269-7600

Europe

C.R. Laurence Europe GmbH
Boschstrasse 6
D-40880 Ratingen B
Düsseldorf, Germany
Phone: 49-2102-74-28-38
Fax: 49-2102-74-28-34

CRL Canada

Vancouver Area
11920 Horseshoe Way
Richmond, BC V7A 4V5
Phone: (604) 448-9344
Fax: (604) 448-9322

Montreal Area
8200 Rue Des Bâtisseurs
Anjou, QC H1J 3B3
Phone: (514) 352-3300
Fax: (514) 352-1017

Toronto Area
65 Tigi Court
Concord, ON L4K 5E4
Phone: (905) 303-7966
Fax: (905) 303-7965

Calgary, Alberta
4200 116 Avenue SE
Calgary, AB T2Z 4B5
Phone: (403) 250-5783
Fax: (403)291-3260

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